

**ABSTRACT OF THE DISCLOSURE**

Dynamic Quality of Service (QoS) treatment of data traffic within a secure Virtual Private Network (VPN) tunnel is provided by attaching a QoS marker to data traffic at an ingress end of the VPN tunnel. The QoS marker, which may be a DSCP value, is obtained by querying a policy database. The policy database returns QoS information, such as a DSCP value and/or a set of Tspec and Rspec parameters, from which the QoS marker is derived. The policy data base can be queried by a VPN Gateway at an ingress end of the tunnel during tunnel setup, and/or at any time following tunnel setup to obtain updated QoS information. This updated QoS information is then propagated through the VPN tunnel to a VPN gateway at the opposite end of the VPN Tunnel, so that it can be used for egress processing of the tunnel traffic. Because the updated QoS information is exchanged between the VPN gateways supporting the VPN tunnel within the existing tunnel Security Association, the VPN gateways are able to utilize the updated QoS information for processing VPN traffic without renegotiating the Security Association. As a result, dissolution and re-establishment of the tunnel is not required in order to change the QoS treatment of tunnel traffic. The QoS information within the policy database can be updated by either a subscriber or a network service provider, independently of operation of the VPN tunnel.